

PS Claim 61; Page 651; 1481pp; English.

XX The present sequence is a H. pylori cytoplasmic protein. The protein may
CC be used in a vaccine to prevent or treat H. pylori infection or to
CC identify H. pylori polypeptide binding compounds, useful as potential H.
CC pylori life cycle activators or inhibitors. The genomic sequence of H.
CC pylori (ATCC 55879) was determined from overlapping contigs generated by
CC mechanically shearing the bacterial DNA. The sequences were analysed for
CC ORF of at least 180 nucleotides, and the predicted coding regions defined
CC by computer evaluation. To identify likely H. pylori antigens for vaccine
CC development, the amino acid sequences predicted from various ORF were
CC analysed for significant homology to other known or exported membrane
CC proteins. Having identified and determined the sequences of interest,
CC particular regions can be isolated from H. pylori by PCR amplification
CC for recombinant polypeptide production, e.g. in E. coli hosts

XX Sequence 253 AA:

Query March 99.34; Score 1270; DB 2; Length 253;
Best Local Similarity 99.24; Pred. No. 1.4e-117;
Matches 251; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MAAKXDRLEFLKQLESDDLDPFVAVFGDGEKRNKELTSIRYKRGDPAKVAER 60
DB 1 MAAKXDRLEFLKQLESDDLDPFVAVFGDGEKRNKELTSIRYKRGDPAKVAER 60
QY 1 IAEELQYYSNSFASPIKSGCVLYKELCDVCKLNNNNKKTETTLIRNNLSKILERS 120
DB 1 IAEELQYYSNSFASPIKSGCVLYKELCDVCKLNNNNKKTETTLIRNNLSKILERS 120
QY 121 LEEMDDEEVKEMCDRLSIKNTDNLNRQALSAAATLTFKNGGPKSYOLAVYANAAVAKTIL 180
DB 121 LEEMDDEEVKEMCDRLSIKNTDNLNRQALSAAATLTFKNGGPKSYOLAVYANAAVAKTIL 180
QY 181 GRGLSLAGNQLTITTSPLTGPVGMITGWTADIDAGPAVYRTIPACIVATLTKTQQ 240
DB 181 GRGLSLAGNQLTITTSPLTGPVGMITGWTADIDAGPAVYRTIPACIVATLTKTQQ 240

QY 241 ANGDKKSLQIESI 253
DB 241 ANEDKKSQIESV 253

RESULT 4
ID AAW24673 standard; protein: 253 AA.
AC AAW24673

XX 12-AUG-1997 (first entry)
DT 12-AUG-1997 (first entry)

DE H. pylori cytoplasmic protein, 4095342.aa.

XX Transmembrane; cytoplasmic; cell envelope; flagella; transport; secreted;
KW periplasmic; chronic gastritis; duodenal ulcer disease; activator;
KW inhibitor; bacterial life cycle; vaccine; immune; detection; antiserum;
XX inhibition.

OS Helicobacter pylori.

XX MO9719098-A1.

XX 29-MAY-1997.

XX 15-NOV-1996; 96WO-US018542.

XX 17-NOV-1995; 95US-00561469.

XX (ASTR) ASTRA AB.

XX Smith DH;

XX WI, 1997-298052/27.

DR N-PSDB; AAT77491.

XX Helicobacter pylori nucleic acid sequences and related proteins - used
PT for diagnostics and therapeutic.

XX Claim 18; Page 184; 235pp; English.

XX This sequence represents an H. pylori cytoplasmic protein. Helicobacter
CC pylori has been strongly linked to chronic gastritis and duodenal ulcer
CC disease. The nucleic acid sequences of the invention are used to evaluate
CC compounds, especially activators or inhibitors of bacterial life cycle,
CC for the ability to bind an H. pylori nucleic acid sequence. The nucleic
CC acid sequences, and corresponding proteins, are also useful for
CC generating vaccines for immunising subjects against H. pylori or for use
CC in detecting the presence of Helicobacter species in a sample. Antisense
CC nucleic acid sequences of these sequences are used to inhibit expression
CC of a gene from Helicobacter species. H. pylori whole genomic DNA was
CC isolated and nebulized to a median size of 200 bp. Purified DNA
CC fragments were blunt-ended and ligated to unique BstXI-linker adapters in
CC 100-1000 fold molar excess. These linkers are complementary to the BstXI-
CC cut pmp vectors, while the overhang is not self-complementary. Therefore
CC the linkers will not concatamerise nor will the cut vector re-ligate
CC itself easily. The linker-adaptor inserts were ligated to each of the 20
CC pmp vectors to construct a series of shotgun subclone libraries. The
CC purified DNA samples were then sequenced. Note: The ORF/protein reference
CC number for this sequence was obtained from the related specification,
CC WO9640893

XX Sequence 253 AA:

Query March 99.34; Score 1270; DB 2; Length 253;
Best Local Similarity 99.24; Pred. No. 1.4e-117;
Matches 251; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MAAKXDRLEFLKQLESDDLDPFVAVFGDGEKRNKELTSIRYKRGDPAKVAER 60
DB 1 MAAKXDRLEFLKQLESDDLDPFVAVFGDGEKRNKELTSIRYKRGDPAKVAER 60
QY 1 IAEELQYYSNSFASPIKSGCVLYKELCDVCKLNNNNKKTETTLIRNNLSKILERS 120
DB 1 IAEELQYYSNSFASPIKSGCVLYKELCDVCKLNNNNKKTETTLIRNNLSKILERS 120
QY 121 LEEMDDEEVKEMCDRLSIKNTDNLNRQALSAAATLTFKNGGPKSYOLAVYANAAVAKTIL 180
DB 121 LEEMDDEEVKEMCDRLSIKNTDNLNRQALSAAATLTFKNGGPKSYOLAVYANAAVAKTIL 180
QY 181 GRGLSLAGNQLTITTSPLTGPVGMITGWTADIDAGPAVYRTIPACIVATLTKTQQ 240
DB 181 GRGLSLAGNQLTITTSPLTGPVGMITGWTADIDAGPAVYRTIPACIVATLTKTQQ 240

QY 241 ANGDKKSLQIESI 253
DB 241 ANEDKKSQIESV 253

RESULT 5
ID AAW20866 standard; protein: 256 AA.
AC AAW20866

XX 18-JUL-1997 (first entry)
DT 18-JUL-1997 (first entry)

DE H. pylori cytoplasmic protein, 129620305orf30.

XX Cytoplasmic; vaccine; prevention; treatment; infection; envelope;
KW identification; binding compound; bacterium; life cycle; activator;
KW bacteria; inhibitor; duodenal ulcer disease; chronic gastritis;
XX diagnosis.

XX Helicobacter pylori.

XX WI, 1997-298052/27.

DB 161 GRLSLAGNOVLTITLFTLPGVOM::ITGVMTAIDIAGPAVVTIPACIVATLRLKTOQ 240
QY 241 ANGDKKSLOIISI 253
DB 241 ANGDKKSLOIISI 253

RESULT 2

US-09-732-091-44
Sequence 44, Application US/09732091
Patent No. US20020107358A1
GENERAL INFORMATION:
APPLICANT: Tiant, Jing-hui
APPLICANT: Walker, Richard I.
APPLICANT: Jackson, W. James
TITLE OF INVENTION: Helicobacter proteins, gene sequences and uses
TITLE OF INVENTION: thereof
FILE REFERENCE: 7969-088
CURRENT APPLICATION NUMBER: US/09/732.091
CURRENT FILING DATE: 2000-12-07
NUMBER OF SEQ ID NOS: 44
SEQUENCE: Patent in Ver. 2.1
SEQ ID NO 44
LENGTH: 265
TYPE: PAT
ORGANISM: Helicobacter sp.
US-09-732-091-44

Query Match 100.0% Score 1279; DB 9; Length 265;
Best Local Similarity 100.0%; Freq. No. 5.1e-115;
Matches 253; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MAYTYSDELFLKXOLSSDLDLEFLVYFGKDEKRNKXLTSSIEYKRGEDYAKYAR 60
DB 13 MAYTYSDELFLKXOLSSDLDLEFLVYFGKDEKRNKXLTSSIEYKRGEDYAKYAR 72
QY 61 IAEELQYVGSNSPSPAFIKGEGVLYKELCDVCDKLVNTNKKTEITLL2EONMLSKILERS 120
DB 73 IAEELQYVGSNSPSPAFIKGEGVLYKELCDVCDKLVNTNKKTEITLL2EONMLSKILERS 132
QY 121 LEEHODEEVKMCBELSKNTDNLNROALSAATLTLPIKGGFSSYGLAVYVANAVALKTL 180
DB 133 LEEHODEEVKMCBELSKNTDNLNROALSAATLTLPIKGGFSSYGLAVYVANAVALKTL 192
QY 191 GRLSLAGNOVLTITLFTLPGVOM::ITGVMTAIDIAGPAVVTIPACIVATLRLKTOQ 240
DB 193 GRLSLAGNOVLTITLFTLPGVOM::ITGVMTAIDIAGPAVVTIPACIVATLRLKTOQ 252
QY 241 ANGDKKSLOIISI 253
DB 253 ANGDKKSLOIISI 253

RESULT 3

US-10-335-977-9162
Sequence 9162, Application US/10335977
Publication No. US20040052799A1
GENERAL INFORMATION:
APPLICANT: DOUGLAS SMITH et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES
RELATING TO HELICOBACTER PYLORI FOR
DIAGNOSTICS AND THERAPEUTICS

NUMBER OF SEQUENCES: 10031
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 28 State Street
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM, ISO9660

COMPUTER: IBM PC Compatible
OPERATING SYSTEM: Windows NT 4.0
SOFTWARE: UNIX
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/335.977
FILING DATE: 30-Dec-2002
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/993,002
FILING DATE: 17-DEC-1997
ATTORNEY/AGENT INFORMATION:
NAME: Mandragoras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: GTN-018
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEFAX: (617)742-4214
INFORMATION FOR SEQ ID NO: 9162:
SEQUENCE CHARACTERISTICS:
LENGTH: 253 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULAR TYPE: protein
HYPOTHETICAL: YES
ORIGINAL SOURCE:
ORGANISM: Helicobacter pylori
FEATURES:
NAME/KEY: misc feature
LOCATION: (8) LOCATION 1...253
SEQUENCE DESCRIPTION: SEQ ID NO: 9162:
US-10-335-977-9162

Query Match 99.3% Score 1270; DB 12; Length 253;
Best Local Similarity 99.2%; Freq. No. 3.6e-114;
Matches 251; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MAYTYSDELFLKXOLSSDLDLEFLVYFGKDEKRNKXLTSSIEYKRGEDYAKYAR 60
DB 1 MAYTYSDELFLKXOLSSDLDLEFLVYFGKDEKRNKXLTSSIEYKRGEDYAKYAR 62
QY 61 IAEELQYVGSNSPSPAFIKGEGVLYKELCDVCDKLVNTNKKTEITLL2EONMLSKILERS 120
DB 61 IAEELQYVGSNSPSPAFIKGEGVLYKELCDVCDKLVNTNKKTEITLL2EONMLSKILERS 120
QY 121 LEEHODEEVKMCBELSKNTDNLNROALSAATLTLPIKGGFSSYGLAVYVANAVALKTL 180
DB 121 LEEHODEEVKMCBELSKNTDNLNROALSAATLTLPIKGGFSSYGLAVYVANAVALKTL 180
QY 181 GRLSLAGNOVLTITLFTLPGVOM::ITGVMTAIDIAGPAVVTIPACIVATLRLKTOQ 240
DB 181 GRLSLAGNOVLTITLFTLPGVOM::ITGVMTAIDIAGPAVVTIPACIVATLRLKTOQ 240
QY 241 ANGDKKSLOIISI 253
DB 241 ANGDKKSLOIISI 253

RESULT 4

US-10-335-977-9163
Sequence 9163, Application US/10335977
Publication No. US20040052799A1
GENERAL INFORMATION:
APPLICANT: DOUGLAS SMITH et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES
RELATING TO HELICOBACTER PYLORI FOR
DIAGNOSTICS AND THERAPEUTICS

NUMBER OF SEQUENCES: 10031
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 28 State Street
CITY: Boston
STATE: Massachusetts
COUNTRY: USA
ZIP: 02109-1875

CC Helicobacter sp. HP30 protein
XX Sequence 253 AA;

Query Match 100.0%; Score 1279; DB 5; Length 253;
Beat Local Similarity 100.0%; Pred. No. 1.0e-118;
Matches 253; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MAYKRDLEFLKQLSSDLDLFEVLVFGKQGRKRNKLTSSIEYKRGDDYAKYAE 60
DB 1 MAYKRDLEFLKQLSSDLDLFEVLVFGKQGRKRNKLTSSIEYKRGDDYAKYAE 60
QY 61 IAEELQYGSNSPASPFGEGVLYKEILCDVCDKLVNKNKTEITLIEQNMLSKILERS 120
DB 61 IAEELQYGSNSPASPFGEGVLYKEILCDVCDKLVNKNKTEITLIEQNMLSKILERS 120
QY 121 LEEEMDEEYKMCDELSTKNTDNLNROALSATLTLFPMGCFKSYQLAVIVANNAVKITL 180
DB 121 LEEEMDEEYKMCDELSTKNTDNLNROALSATLTLFPMGCFKSYQLAVIVANNAVKITL 180
QY 181 GRGLSLAGNOVLTTRLSFLTGPVGMITGWTAIDAGPARYRTIPACIVATRLKTKQ 240
DB 181 GRGLSLAGNOVLTTRLSFLTGPVGMITGWTAIDAGPARYRTIPACIVATRLKTKQ 240
QY 241 ANGDKKSQIEST 253
DB 241 ANGDKKSQIEST 253

RESULT 2

AA26878
ID AA26878 standard; protein; 265 AA.

AC AA26878;

DT 13-DEC-2002 (first entry)

XX Helicobacter sp. PGB/HP30 protein.

XX HP30; HP56; immune response; therapy; Helicobacter infection; vaccine;
KM type B gastritis; antiinflammatory; adenocarcinoma; defense mechanism;
KM low grade B cell lymphoma; virulence; antibacterial; gastric cancer;
KM immunostimulant; cytotoxic; peptic ulcer.

OS Helicobacter sp.

XX Key Location/Qualifiers
FH Misc-difference 12
PT /note= "Encoded by TTC"

XX W020251237-A2.

PD 04-JUN-2002.

XX 07-DEC-2001; 2001WO-US048392.

XX 07-DEC-2000; 2000US-00732091.

XX (ANTE-) ANTEK BIOLOGICS INC.

XX Tian J, Walker R, Jackson WJ;

XX MPI; 2002-666854/71.

XX N-PSDB; AAD44535.

XX Novel Helicobacter proteins, HP30 and HP56, and nucleic acid encoding
PT the proteins, useful as vaccines for raising immune response in animals.

XX Disclosure: Page 122-123; 127pp; English.

XX The invention relates to Helicobacter HP30 or HP56 polypeptide and
CC peptides derived from them. The invention is useful for producing an
CC immune response. It is useful for preventing, treating or ameliorating a

CC disorder or disease associated with infection of an animal with
CC Helicobacter. Pharmaceutical composition and vaccines comprising the
CC sequences of the invention is useful for treating type B gastritis,
CC peptic ulcers, gastric cancers such as adenocarcinoma, and low grade B
CC cell lymphoma. The invention is useful as reagents for clinical or
CC medical diagnosis of Helicobacter infections and for scientific research
CC on the properties of pathogenicity, virulence and infectivity of
CC Helicobacter, as well as host defense mechanisms. The present sequence is
CC Helicobacter sp. PGB/HP30 protein

SO Sequence 265 AA;
Query Match 100.0%; Score 1279; DB 5; Length 265;
Beat Local Similarity 100.0%; Pred. No. 1.9e-118;
Matches 253; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MAYKRDLEFLKQLSSDLDLFEVLVFGKQGRKRNKLTSSIEYKRGDDYAKYAE 60
DB 1 MAYKRDLEFLKQLSSDLDLFEVLVFGKQGRKRNKLTSSIEYKRGDDYAKYAE 72
QY 61 IAEELQYGSNSPASPFGEGVLYKEILCDVCDKLVNKNKTEITLIEQNMLSKILERS 120
DB 73 IAEELQYGSNSPASPFGEGVLYKEILCDVCDKLVNKNKTEITLIEQNMLSKILERS 132
QY 121 LEEEMDEEYKMCDELSTKNTDNLNROALSATLTLFPMGCFKSYQLAVIVANNAVKITL 180
DB 121 LEEEMDEEYKMCDELSTKNTDNLNROALSATLTLFPMGCFKSYQLAVIVANNAVKITL 192
QY 181 GRGLSLAGNOVLTTRLSFLTGPVGMITGWTAIDAGPARYRTIPACIVATRLKTKQ 240
DB 193 GRGLSLAGNOVLTTRLSFLTGPVGMITGWTAIDAGPARYRTIPACIVATRLKTKQ 252
QY 241 ANGDKKSQIEST 253
DB 253 ANGDKKSQIEST 265

RESULT 3

AA20486
ID AA20486 standard; protein; 253 AA.

AC AA20486;

DT 29-JUN-1997 (first entry)

XX H. pylori cytoplasmic protein, 4095342.aa.

XX Cytoplasmic; vaccine; prevention; treatment; infection; identification;
KM binding compound; bacterium; life cycle; activator; bacteria; inhibitor;
KM duodenal ulcer disease; chronic gastritis; diagnosis; envelope.

XX Helicobacter pylori.

XX W09640893-A1.

XX 19-DEC-1996.

XX 06-JUN-1996; 96WO-US009122.

XX 07-JUN-1995; 95US-00487032.

XX 01-APR-1996; 96US-00630405.

XX (ASTR) ASTRA AB.

XX Smith D, Berglund OT, Wellgaard BJ,

XX MPI; 1997-052306/05.

XX N-PSDB; AAT67811.

XX Helicobacter pylori nucleic acid sequences and related polypeptide(s)
PT useful for vaccines to treat or prevent H. pylori infection, and to
PT detect Helicobacter.

QY 1 ATGGCATTAACAAATATGATAGAGCTTGAAATTTTAAAGCAATTCGAAATCTAGATTTA 60
 DB 13 MetAlaTTLyTyrTrpAspArgAspLeuGlnPheLeuGlnLeuGlnSerSerAspLeu 12
 QY 61 TTGGATTGTTTGAAGTCTTCTTTTGTGTAAGACCGCGCAAAAACACACATGAAAA 120
 DB 33 LeuAspPhePheGluValLeuValPheGlySerAspGlyGluValArgHisAlaGluLys 52
 QY 121 CTGACCAAGCTCATAGATTAACAAAGCATGCGCATTAATAGCTAAATTCGCAAGAA 180
 DB 53 LeuThrSerSerLeuGlnTyrLeuArgHisAlaAspPheValLysTyrAlaGluArg 72
 QY 181 ATCCGTGAAGATTGCAATTAATCTAGGAGCAATGTTTCCGAGTTTCAATTAAGCGCA 240
 DB 73 IleAlaGluGlnLeuGlnTyrTyrGlySerAspSerPheHisSerPheIleGlyGlu 92
 QY 241 GGAGCTTATACAAAGCATTTATGCGATGTGTGCAATTAATTAAGCTCAATTCAC 300
 DB 93 GlyValLeuTyrLeuGlnTyrLeuGlnTyrLeuGlnTyrLeuGlnTyrLeuGlnTyr 112
 QY 301 AAGAAATCTGAACGACCTTAAATTCGCAAGCATGTTTCTTAATTTAGAAAGAT 360
 DB 113 LysLysTrpGlnTyrTrpLeuLeuGlnGlnAspMetLeuSerTyrIleLeuGlnLysSer 132
 QY 361 TTGCAAGAAATGATGATGAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCA 420
 DB 133 LeuGlnGlnLeuAspAspGlnGlnValLysGlnMetCysAspGlnLeuSerIleLysAsn 152
 QY 421 ACGGCAATTTAAACAGACAGCTTAAAGCGCGGCACTTAAAGCTTTAAATGCGAG 480
 DB 153 ThrAspLeuLeuAspArgGlnAlaLeuSerHisAlaThrLeuThrLeuPheLeuSerIle 172
 QY 481 GATTAAATCTTATCATATGCTGTGCTATTTTGTGCAATTCGCGTCAAAACCAATCTA 540
 DB 173 GlyPheLysSerTyrGlnLeuAlaValIleValAlaAspAlaValAlaLysThrIleLeu 192
 QY 541 GCGGCTGTTTACGCTTGGCGGCAATGAGTGTCTTACCAATCTAGCTTTTAAACA 600
 DB 193 GlyArgGlyLeuSerLeuAlaGlyAsnGlnValLeuThrAspThrLeuSerPheLeuThr 212
 QY 601 GGTCTGTTGAGTGTGATCATTAACAGCGGCTTAAAGCAAGCAATTCGCAAGCGCGCT 660
 DB 213 GlyProLeuGlyTrpIleIleThrGlyValTrpThrAlaIleAspHisAlaGlyProAla 232
 QY 661 TATAGGCTAACATACCGGATGATGCTGTTGCTGCTTAAAGCTTAAACACAGCA 720
 DB 233 TyrArgValThrIleProAlaCysIleValAlaThrLeuArgLeuLysThrGlnGln 252
 QY 721 GCGAATGAGATTAAGATGCTTGGCAATTAAGATTCATT 759
 DB 253 AlaAsnGlyAspLysSerLeuGlnIleGlnSerIle 265

RESULT 3
 ID AAM20486 standard; protein; 253 AA.
 AC AAM20486

QY 29-JUL-1997 (first entry)
 DB H. pylori cytoplasmic protein, 4095342.aa.
 QY Cytoplasmic vaccine; prevention; treatment; infection; identification;
 DB binding compound; bacterium; life cycle; activator; bacteria; inhibitor;
 QY duodenal ulcer disease; chronic gastritis; diagnosis; envelope.
 DB Helicobacter pylori.
 QY MO640893-A1.
 DB 19-DEC-1996.
 QY 06-JUN-1996; 96MO-UB009122.

XX 07-JUN-1995; 95US-00487032.
 PR 01-APR-1996; 96US-00630405.
 XX (ASTR) ASTRA AB.
 PT Smith D, Berglindh OT, Mellgaard BL;
 DR WPI; 1997-052306/05.
 DR N-PSDB; AAT67811.
 XX Helicobacter pylori nucleic acid sequences and related polypeptide(s) -
 PT useful for vaccines to treat or prevent H. pylori infection, and to
 XX detect Helicobacter.
 PS Claim 61; Page 651; 1481pp; English.
 CC The present sequence is a H. pylori cytoplasmic protein. The protein may
 CC be used in a vaccine to prevent or treat H. pylori infection or to
 CC identify H. pylori polypeptide binding compounds, useful as potential H.
 CC pylori life cycle activators or inhibitors. The genomic sequence of H.
 CC pylori (ATCC 55679) was determined from overlapping contigs generated by
 CC ORF of at least 180 nucleotides, and the predicted coding regions defined
 CC by computer evaluation. To identify likely H. pylori antigens for vaccine
 CC development, the amino acid sequences predicted from various ORF were
 CC analysed for significant homology to other known or exported membrane
 CC proteins. Having identified and determined the sequences of interest,
 CC particular regions can be isolated from H. pylori by PCR amplification
 CC for recombinant polypeptide production, e.g. in E. coli hosts
 XX
 SQ Sequence 253 AA:
 Alignment Scores:
 Pred. No.: 6,946-134 Length: 253
 Score: 1270.00 Matches: 253
 Percent Similarity: 99.60% Conservative: 1
 Best Local Similarity: 99.21% Mismatches: 0
 Query Match: 94.14% Indels: 0
 DB: 2 Gaps: 0
 US-09-732-091-3 (1-759) x AAM20486 (1-253)
 QY 1 ATGGCATTAACAAATATGATAGAGCTTGAAATTTTAAAGCAATTCGAAATCTAGATTTA 60
 DB 1 MetAlaTTLyTyrTrpAspArgAspLeuGlnPheLeuGlnLeuGlnSerSerAspLeu 20
 QY 61 TTGGATTGTTTGAAGTCTTCTTTTGTGTAAGACCGCGCAAAAACACACATGAAAA 120
 DB 33 LeuAspPhePheGluValLeuValPheGlySerAspGlyGluValArgHisAlaGluLys 40
 QY 121 CTGACCAAGCTCATAGATTAACAAAGCATGCGCATTAATAGCTAAATTCGCAAGAA 180
 DB 53 LeuThrSerSerLeuGlnTyrLeuArgHisAlaAspPheValLysTyrAlaGluArg 60
 QY 181 ATCCGTGAAGATTGCAATTAATCTAGGAGCAATGTTTCCGAGTTTCAATTAAGCGCA 240
 DB 73 IleAlaGluGlnLeuGlnTyrTyrGlySerAspSerPheHisSerPheIleGlyGlu 80
 QY 241 GGAGCTTATACAAAGCATTTTATGCGATGTGTGCAATTAATTAAGCTCAATTCAC 300
 DB 93 GlyValLeuTyrLysGlnTyrLeuGlnTyrLeuGlnTyrLeuGlnTyrLeuGlnTyr 100
 QY 301 AAGAAATCTGAACGACCTTAAATTCGCAAGCATGTTTCTTAATTTAGAAAGAT 360
 DB 101 LysLysTrpGlnTyrTrpLeuLeuGlnGlnAspMetLeuSerTyrIleLeuGlnLysSer 120
 QY 361 TTGCAAGAAATGATGATGAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCA 420
 DB 121 LeuGlnGlnLeuAspAspGlnGlnValLysGlnMetCysAspGlnLeuSerIleLysAsn 140
 QY 421 ACGGCAATTTAAACAGACAGCTTAAAGCGCGGCACTTAAAGCTTTAAATGCGAG 480